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09/895,235	06/28/2001	Lance W. Russell	10003532-1	8674
22879 7590 02/05/2009 HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400				
EXAMINER BILGRAMI, ASGHAR H				
ART UNIT 2443		PAPER NUMBER		
NOTIFICATION DATE 02/05/2009		DELIVERY MODE ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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### Office Action Summary

**Application No.**

09/895,235

**Applicant(s)**

RUSSELL, LANCE W.

**Examiner**

ASGHAR BILGRAMI

**Art Unit**

2443

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9, 11-25 and 27-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-25 and 27-30 is/are rejected.
- 7) ☒ Claim(s) 11 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-884)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date \_\_\_\_\_

**DETAILED ACTION**

***Response to Arguments***

1. Applicant's petition has been received and acknowledged. This non-final action was issued ONLY for the reason because some of the claims do not comply with 35 U.S.C 101 Statute (Please see 101 rejection below) and should be addressed before advancing to the BPAI.
2. Examiner still maintains that the prior art rejections made on September 18, 2008 are applicable. If applicant chooses to file an appeal brief with the existing claim language in the future, examiner will address applicant's arguments in detail in Appeal brief before the BPAI.
3. Applicant's arguments filed 12/18/2008 have been fully considered but they are not persuasive.
4. Applicant argued that Turek failed to disclose a network management module that launches migratory recovery modules into the network to monitor each of the network nodes.

As to applicant's argument Turek clearly discloses a network management module that launches migratory recovery modules into the network to monitor each of the network nodes.

Yet another object of the present invention is to collect information about network conditions as mobile software agents are dispatched and migrated throughout a large computer network to correct network faults, wherein such  
25 information is then useful in diagnosing new faults.

A preferred embodiment of the present invention is implemented in the enterprise environment illustrated above. In this embodiment, a set of "software agents" are available at a central location (e.g., manager 14) or at a plurality of  
35 locations (e.g., the gateways 16) in the network where network errors are reported. The software agents are "mobile" in the sense that the agents are dispatched (as will be described below) from a dispatch mechanism and then migrate throughout the network environment. Generally, the  
40 mobile software agents traverse the network to diagnose and, if possible, to correct a network fault.

5. Applicant argued that claim 20 is palatable for the same reasons claims 1 & 11 are patentable.

6. As to applicant's argument claim 20 is not patentable for the same reasons claims 1 & 11 are not patentable.

7. With respect to claim 5 applicant argue that the cited prior art failed to disclose each and every element of the claimed invention.

As to applicant's argument examiner has shown anticipation of all the elements of the claimed invention in both arts and explained the reasoning in the rejection.

Finally, all the dependent claims are also rejected by virtue of their dependence on the independent claims and the reasoning given by the examiner for their non-patentability.

***Claim Rejections - 35 USC § 101***

8. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

9. Claims 1 & 5 are rejected under 35 U.S.C 101 because claim 1 discloses a "module(s)" which is software. Applicant's specification page.8, lines 3-4.

Recovery modules 20 are software components that are capable of migrating from one network node to another and executing on each network node. In one

Additionally, "module(s)" is not embodied on a "computer readable media". "Computer readable media" is disclosed in applicant's specification on page 5 lines 28-31.

drives. These storage drives may connect to system bus 32 through respective interfaces and may contain respective computer-readable media disks that provide non-volatile or persistent storage for data, data structures and computer-executable instructions. Permanent storage system 26 may contain a read only memory (ROM)

Therefore, claiming a "module(s)" (i.e. software) that is not embodied on a "computer readable media" makes the claim language geared towards claiming software which is non-statutory and hence it is rejected under 35 U.S.C. 101. Appropriate correction in light of the disclosed specification is required to overcome this rejection.

10. Claims 2-4 and 6-8, 21-25, 27, 28 & 30 are also rejected under 35 U.S.C. 101 by virtue of their dependence on claim 1.

11. Dependent claims 19 & 29 are rejected under 35 U.S.C 101 because they disclose a module(s) (software) that is not embodied on a "computer readable media" making the claim language geared towards claiming software which is non-statutory and hence it is rejected under 35 U.S.C. 101. Appropriate correction in light of the disclosed specification is required to overcome this rejection.

### ***Claim Objection***

12. Claim 11 is objected to because the term "computer readable medium" is not addressed in applicant's specification. Examiner suggests changing the above term to "computer readable media" which is consistent with applicant's disclosure on page 5 lines 28-31.

drives. These storage drives may connect to system bus 32 through respective interfaces and may contain respective computer-readable media disks that provide  
30 non-volatile or persistent storage for data, data structures and computer-executable instructions. Permanent storage system 26 may contain a read only memory (ROM)

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 5, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Turek (U.S. 6,460,070) and Sreenivasan (U.S. Pub No. 2002/0049845 A1).

15. As per claims 5 Turek disclosed a system for managing a plurality of distributed nodes of a network, comprising: a recovery modules configured to migrate from one network node to another, determine a status of a network, and initiate a recovery process on a network node having one or more failed node processes (col.2, lines 65-67 & col.2, lines 1-46) wherein the recovery module is configured to determine the status of a network node in accordance with a heartbeat messaging protocol (col.2, lines 22-46). Although Turek disclosed software agent (module) providing network status information to the management module. However Turek did not specifically mentioned agent using a "heartbeat messaging protocol" to determine the status of a network node. In the same field of endeavor Sreenivasan disclosed daemon (module or software agent) sending "I am alive message" (heartbeat messaging protocol) to determine the status of a network node (paragraphs.78, 111 & 112).

It would have been obvious to one in the ordinary skill in the art at the time the invention was made to have incorporated the functionality of daemon (module or software agent) sending "I am alive message" (heartbeat messaging protocol) to determine the status of a network node as disclosed by Sreenivasan in the a system for managing a plurality of distributed nodes of a network as disclosed by Turek in order to make the managing system more reliable and responsive resulting in determining accurate diagnosis and status of the network nodes.

16. As per claim 15 Turek disclosed the method of claim 11. Although Turek disclosed agents (modules) providing status information about the network nodes. However Turek did not explicitly disclose wherein the status of the network node is determined in accordance with a heartbeat messaging protocol. In the same field of endeavor Sreenivasan disclosed daemon (module or software agent) sending "I am alive message" (heartbeat messaging protocol) to determine the status of a network node ((paragraphs.78, 111 & 112).

It would have been obvious to one in the ordinary skill in the art at the time the invention was made to have incorporated the functionality of daemon (module or software agent) sending "I am alive message" (heartbeat messaging protocol) to determine the status of a network node as disclosed by Sreenivasan in the a system for managing a plurality of distributed nodes of a network as disclosed by Turek in order to make the managing system more reliable and responsive resulting in determining accurate diagnosis and status of the network nodes.

### ***Claim Rejections - 35 USC § 102***

17. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the



applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

18. Claims 1-4, 6-9, 11-14, 16-25 & 30 are rejected under 35 U.S.C. 102(e) as being anticipated by Turek et al (U.S.6,460,070).

19. As per claims 1, 11, 19 & 20 Turek disclosed a method for managing a plurality of distributed nodes of a network, comprising: a network management module that launches migratory recovery modules into the network to monitor status of each of the network nodes; wherein each of the recovery modules is configured to migrate from one network to another, determine a respective status of each of the network nodes to which it has migrated, and initiate a recovery process on failed ones of the network nodes.(col.3, lines 48-64, col.1, lines 59-62, 65-67, col.2, lines 22-26, col.2, lines 1-3, col.2, lines 22-26 & col.5, lines 32-60), having one or more failed node processes, the recovery modules determine the status of each of the network nodes, and the network management module monitors transmissions that are received from the recovery modules to provide periodic monitoring of the status of the network nodes (col.7, lines 58-67 & col.8, lines 1-9) after initiating the recovery process, migrating from the current node to a successive one of the network node (col.5, lines 32-60, col.7, lines 58-67 & col.8, lines 1-65), and the network management module monitors transmissions that are received from the recovery modules to provide periodic monitoring of the status of each of the network nodes (col.7, lines 58-67, col.8, lines 1-9 & col.8, lines 39-58)

20. As per claims 2, 12, 21, 23, 24 & 25 Turek disclosed the system of claim 1, wherein at least one of the recovery module comprises a respective routing component for determining a next hop address from an origin network node to a destination network node (Turek, col.5, lines 32-60).

21. As per claims 3 & 13 Turek disclosed the system of claim 2, wherein the routing component is configured to determine the next hop address based upon a routing table stored at the origin network node (Turek, col.5, lines 32-60)

22. As per claims 4 & 14 Turek disclosed the system of claim 1, wherein at least one of the recovery module is configured to determine the status of a network node by sending an inter-process communication to a node process (Turek, col.3, lines 65-67, col.4, lines 1-12 & col.5, lines 32-60).

23. As per claims 6 & 16 Turek disclosed the system of claim 1, wherein each of the recovery module is configured to initiate a recovery process on a network node having one or more failed node processes in accordance with a restart protocol (Turek, col.6, lines 23-59).

24. As per claims 7 & 17 Turek disclosed the system of claim 6, wherein each of the recovery module is configured to initiate a restart of a failed node process by

transmitting a request to a process execution service operating on the failed network node (Turek, col.6, lines 23-59).

25. As per claims 8 & 18 Turek disclosed the system of claim 1, wherein each of the recovery module is configured to transmit a respective node status message to the network management module (Turek, col.2, lines 22-62).

26. As per claim 9 Turek disclosed the system of claim 8, wherein each of the node status messages comprises information obtained from a respective log file generated at a respective failed one of the network node (Turek, col.8, lines 58-67 & col.8, lines 1-9).

27. As per claim 22 Turek disclosed the system of claim 21, wherein the operating environment on each of the network nodes provides each of the recovery modules with access to status monitoring resources, recovery resources, and native operative system resources that are available at each of the network nodes (Turek, col.8, lines 39-52).

28. As per claim 30 Turek disclosed the system of claim 1, wherein the network management module monitors number of network node failures reported by the recovery modules and launches more migratory modules into the network as the number of reported failures increases (Turek, col.5, lines 32-67).

***Claim Rejections - 35 USC § 103***

29. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

30. Claims 27, 28 & 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Turek (U.S. 6,460,070) and Douik et al (U.S. 6,012,152).

31. As per claims 27, 28 & 29 Turek disclosed the system of claim 1. However Turek did not explicitly disclose, wherein the network management module statistically identifies target ones of the network nodes to achieve a specified confidence level of network monitoring reliability, and proactively launches the recovery modules into the network by transmitting respective ones of the recovery modules to the identified target network nodes. In the same field of endeavor Douik disclosed wherein the network management module statistically identifies target ones of the network nodes to achieve a specified confidence level of network monitoring reliability, and launches the recovery modules into the network by transmitting respective ones of the recovery modules to the identified target network nodes (col.11, lines 64-67 & col.12, lines 1-19).

It would have been obvious to one in the ordinary skill in the art at the time the invention was made to have incorporated statistical means for managing network by proactively launching recovery modules as disclosed Douik in the method of managing plurality of nodes as disclosed by Turik in order to automate and enhance the management of the network resulting in a trouble free and reliable network.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ASGHAR BILGRAMI whose telephone number is (571)272-3907. The examiner can normally be reached on 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tonia L.M. Dollinger can be reached on 571-272-4170. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. B./  
Examiner, Art Unit 2443

/Tonia LM Dollinger/  
Supervisory Patent Examiner, Art Unit 2443